

ABSTRACT

A Model-Free Adaptive Quality Variable control system is disclosed for effectively controlling quality variables on-line in closed-loop fashion. It is able to automatically control quality variables under the conditions where there are significant varying time delays and disturbances in the process. Because of its unique capability, the control system is useful for building flexible and adaptive production systems, achieving Six Sigma quality control goals, and fulfilling the on demand manufacturing needs in the new e-commerce environment.